

What Is Reading?

Substantial advances in understanding the process of reading have been made in the last decade. The majority of scholars in the field now agree on the nature of reading: Reading is the process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated sources of information.

Reading can be compared to the performance of a symphony orchestra. This analogy illustrates three points. First, like the performance of a symphony, reading is a holistic act. In other words, while reading can be analyzed into subskills such as discriminating letters and identifying words, performing the subskills one at a time does not constitute reading. Reading can be said to take place only when the parts are put together in a smooth, integrated performance. Second, success in reading comes from practice over long periods of time, like skill in playing musical instruments. Indeed, it is a lifelong endeavor. Third, as with a musical score, there may be more than one interpretation of a text. The interpretation depends upon the background of the reader, the purpose for reading, and the context in which reading occurs.

How does the process of reading occur? A common

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view is that reading is a process in which the pronunciation of words gives access to their meanings; the meanings of the words add together to form the meanings of clauses and sentences; and the meanings of sentences combine to produce the meanings of paragraphs. In this conception, readers are viewed as always 'starting at the bottom' -- identifying letters -- and then working up through words and sentences to higher levels until they finally understand the meaning of the text.

However, research establishes that the foregoing view of reading is only partly correct. In addition to obtaining information from the letters and words in a text, reading involves selecting and using knowledge about people, places, and things, and knowledge about texts and their organization. A text is not so much a vessel containing meaning as it is a source of partial information that enables the reader to use already-possessed knowledge to determine the intended meaning.

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When Mary arrived at the restaurant, the woman at the door greeted her and checked for her name. A few minutes later, Mary was escorted to her chair and was shown the day's menu. The attendant was helpful but brusque, almost to the point of being rude. Later, she paid the woman at the door and left.'

The first phrase will lead readers to expect that their existing knowledge of restaurants will be relevant. That is to say, the word "restaurant" brings to mind past associations and experiences with restaurants and the interrelations among these ideas. From there, reading is easy because of the expectations that come from this knowledge. The woman at the door is taken to be the hostess. Mary must sit at a chair at a dining table before she can eat. The "attendant" is probably the waiter or waitress, and the person referred to as leaving in the last sentence is probably Mary. These are all inferences

that make use of both the information presented in the text and the knowledge the reader already has about restaurants.

Good readers skillfully integrate information in the text with what they already know. However, immature readers may depend too much on either letter by letter and word by word analysis or too much on the knowledge they already have about the topic.²

Some children laboriously work their way through texts word by word, or even letter by letter (e.g. m-m-M-a-r-y). They are so intent on saying the words right that they miss aspects of the meaning. In oral reading, these children tend to make nonsensical errors that look or sound like the words they are trying to read with results such as, "The woman at the door *grated* her and *locked* for her name."³ These children sometimes fail to use the knowledge they may have about the topic to think about what they are trying to read.

Other immature readers show an overreliance on the knowledge they already have about the topic. Such children may use pictures, titles, their imagination, and only a small amount of information in the text to produce a believable story.⁴ For example, "... and then Mary got to the ... ah ... pizza place. She went in the door and greeted her friend. Then she sat down in her chair and had a pizza." These children often do not have enough skill at word identification to make use of all of the information in the written message.

Five generalizations flow from the research of the past decade on the nature of reading:

The first generalization is that *reading is a constructive process*. No text is completely self-explanatory. In interpreting a text, readers draw on their store of knowledge about the topic of the text. Readers use this prior knowledge to fill in gaps in the message and to integrate the different pieces of information in the message. That is to say, readers "construct" the meaning. In the restaurant example, the reader is able to infer that Mary sat at a table, selected her meal from the menu, and was probably served by the attendant. Yet none of this information is expressly mentioned in the text. These

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The meaning constructed from the same text can vary greatly among people because of differences in the knowledge they possess.⁵ Sometimes people do not have enough knowledge to understand a text, or they may have knowledge that they do not use fully. Variations in interpretation often arise because people have different conceptions about the topic than the author supposed.

Some children may completely lack knowledge on a particular topic, others may know something, while still others may know a lot. Research shows that such differences in knowledge influence children's understanding. For example, in one study, second-grade children equivalent in overall reading ability were given a test of knowledge about spiders prior to reading a selection about spiders.⁶ Then they were asked questions about the selection. Children who were more familiar with spiders were significantly better at answering the questions, particularly questions that required reasoning.

Research reveals that children are not good at drawing on their prior knowledge, especially in school settings.⁷ They may know something relevant, but yet not use it when trying to understand a passage. These failures are more likely to happen when understanding the passage requires children to extend their knowledge to a somewhat different situation. Even a subtle difference between a child's interpretation and the "right" adult interpretation can give rise to the impression that the child doesn't understand the material.

The second principle is that *reading must be fluent*. The foundation of fluency is the ability to identify individual words. Since English is an alphabetic language, there is a fairly regular connection between the spelling of a word and its pronunciation. Every would-be reader must "break the code" that relates spelling to sound and meaning. Research suggests that, no matter which strategies are used to introduce them to reading, the children who earn the best scores on reading comprehension tests in the second grade are the ones who

made the most progress in fast and accurate word identification in the first grade.⁸

“Decoding” a word — that is, identifying its pronunciation and meaning — involves more than letter by letter analysis. It has been known since late in the 19th century that short, familiar words can be read as fast as single letters and that, under some conditions, words can be identified when the separate letters cannot be.⁹ These facts would be impossible if the first step in word identification were always identification of the constituent letters and their sounds. More recently, it has been shown that a meaningful context speeds word identification.¹⁰ For instance, *nurse* is more readily identified if it is preceded by *doctor*. Again, this is a fact that is impossible to square with the common theory that word identification consists of letter by letter decoding.

All of the known facts are understandable within the generally-accepted current model of word identification.¹¹ According to this model, a possible interpretation of a word usually begins forming in the mind as soon as even partial information has been gleaned about the letters in the word. The possible interpretation reinforces the analysis of the remaining information contained in the letters. When enough evidence from the letters and the context becomes available, the possible interpretation becomes a positive identification. This all happens very quickly, within 250 milliseconds on the average, when the reader is skilled.¹²

Readers must be able to decode words quickly and accurately so that this process can coordinate fluidly with the process of constructing the meaning of the text. One piece of evidence that this is so is that good readers are consistently much faster than poor readers at pronouncing pseudowords that have regular English spellings, such as *tob* and *jate*.¹³ People with more than fourth-grade reading ability make almost no mistakes with regular pseudowords. What distinguishes good and poor readers in this case is speed, not accuracy. What this fact means is that typically poor readers have barely mastered spelling-to-sound patterns, whereas good read-

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ers have a command that goes beyond simple mastery to automaticity.

Interestingly, it does not appear that skilled readers identify unfamiliar words by rapidly applying "rules" governing the relationships between letters and sounds. Instead, research suggests that they work by analogy with known words.¹⁴ Thus, for example, the pronunciation of *tob* may be worked out from knowledge of the pronunciation of *job* plus a notion of the initial sound of words beginning with *t*. One piece of evidence in support of the decoding-by-analogy strategy is the fact that pseudowords such as *mave*, which have conflicting possible analogies, such as *have* and *wave*, are pronounced more slowly than other pseudowords, and are sometimes pronounced with a short *a* like *have* and are sometimes pronounced with a long *a* like *wave*. Notice that for the process to work the reader need not have any specific knowledge of the difference between long and short *a*'s, only an adequate vocabulary of actual words and a command of the analogy strategy.

Decoding skill must develop to the point where it is automatic and requires little conscious attention. The reader's attention must be available to interpret the text, rather than to figure out the words. Immature readers are sometimes unable to focus on meaning during reading because they have such a low level of decoding skill. They are directing most of their attention to sounding out words letter by letter or syllable by syllable.¹⁵ Even skilled readers show much less understanding of what they read when forced to attend to the surface features of written material.¹⁶

Consider, for example, the way a young child might read the first sentence of the restaurant passage:

When Mary arrived at the r, ruh, ruh, ruh-es-tah,
oh! restaurant! When Mary arrived at the ... rest...
restaurant...

Restaurant is a difficult word for this child, and he or she requires several attempts to decode it. By this time, the child's memory for the earlier part of the phrase has faded and he or she has to reread the words to try and create a coherent meaning.

Available figures suggest that an average third grader can read an unfamiliar story aloud at the rate of about 100 words per minute.¹⁷ The corresponding rate for poor readers at this level is 50 to 70 words per minute. According to one group of scholars, this rate is "so slow as to interfere with comprehension even of easy material, and is certainly unlikely to leave much ... capacity free for developing new comprehension abilities."¹⁸

The third principle is that *reading must be strategic*. Skilled readers are flexible. How they read depends upon the complexity of the text, their familiarity with the topic, and their purpose for reading. Studies show that immature readers lack two strategies used by skilled readers: Assessing their own knowledge relative to the demands of the task, and monitoring their comprehension and implementing fix-up strategies when comprehension fails.¹⁹

Skilled readers are aware that there are different purposes for reading and that they must change the way they read in response to these purposes. For instance, they know that reading for enjoyment does not require detailed understanding, while reading for a test may. In one study, third and sixth graders were asked to read two stories, one for fun and the other in preparation for a test.²⁰ The skilled readers adjusted their reading strategies for the two stories; the immature readers didn't. As a result, the immature readers did not remember any more of the story they were supposed to study than the one they were supposed to read for fun.

Perhaps because they frequently do not see the point of reading, poor readers often do not adequately control the way they read. One aspect of such control is being able to monitor one's own reading and notice when failures occur. To investigate this, researchers have placed inconsistent information in passages to see whether readers can detect it. Here are examples of consistent and inconsistent passages:

All the people who work on this ship get along very well. The people who make a lot of money and the people who don't make much are still friends. The

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officers treat me as an equal. We often eat our meals together. I guess we are just one big happy family.

All the people who work on this ship get along very well. The people who make a lot of money and the people who don't make much are still friends. The officers treat me like dirt. We often eat our meals together. I guess we are just one big happy family.²¹

Skilled readers readily detect the inconsistency in the second passage. Younger or less able readers are not as likely to notice the problem and usually say that the passage makes sense.²²

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Another aspect of control during reading is being able to take corrective action once a failure in understanding has been detected. Skilled readers know what to do if they have difficulty. There are a number of options available: Keeping the problem "on hold" in the hope that it will be clarified later in the text; rereading parts of the text; looking ahead; or seeking help from outside sources. In one study, researchers asked second and sixth graders questions about their strategies for coping with failures to understand.²³ Older and better readers said that, for instance, if they did not know the meaning of a word they would ask someone else or go to a dictionary. Poorer readers were unable to say what they would do. These reports have been confirmed by actually observing children. In another study, fourth graders were asked to read and remember a story containing some difficult words.²⁴ They were given paper, a pencil, and a dictionary and told that they could ask questions. As expected, the good readers asked questions, took notes, and used the dictionary. The poor readers used these aids infrequently.

Throughout this report, the idea that skilled reading needs to be strategic will be emphasized. This means that the reader monitors progress in understanding, and resolves problems that prevent understanding.

The fourth principle is that *reading requires motivation*. As every teacher knows, motivation is one of the keys to learning to read. It will take most children several years to learn to read well. Somehow, their attention

must be sustained during this period and they must not lose the hope that eventually they will become successful readers.

Reading itself is fun. At least, it is for many children who are skilled readers for their age and for some children with average and below average skill. These children are, as the saying goes, "hooked on books." Increasing the proportion of children who read widely and with evident satisfaction ought to be as much a goal of reading instruction as increasing the number who are competent readers. As will be detailed in the chapter on Extending Literacy, an essential step in reaching that goal is providing children ready access to books that are interesting to them.

Reading instruction can be boring. Aspects of the standard reading lesson are monotonous. Many of the tasks assigned to children in the name of reading are drudgery. Thus, it is not surprising that in one study, for instance, interviews with a sample of poor, black children reading a year above grade level indicated that most liked to read, but few liked the activities called "reading" in school.²⁵

Teachers who maintain high levels of motivation conduct fast-paced and varied lessons. Tasks are introduced with enthusiasm and with explanations of why doing them will help one become a better reader. Teachers whose classes are motivated are described as business-like but supportive and friendly. Children taught by teachers rated as having these traits make larger-than-average gains on reading achievement tests.²⁶

Failure is not fun. Predictably, poor readers have unfavorable attitudes toward reading. What is not so predictable is whether lack of proficiency in reading stems from unfavorable attitudes or whether it is the other way around. Probably the truth can lie in either direction.

Poor readers frequently are listless and inattentive and sometimes are disruptive. They do not complete work. They give up quickly when faced with a task that is difficult for them. They become anxious when they must read aloud or take a test. A good summary

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description is that they act as though they were helpless to do better.²⁷

The etiology of this sense of helplessness is not completely understood, but it is known that it is affected in sometimes subtle ways by teachers' behavior. It might be thought an act of kindness to express pity when students flub a test, but the hidden message may be that they lack the ability to do any better, that they are not in control of their own fate. An expression of dissatisfaction, on the other hand, may convey the message that the students could do better if they tried harder. People can control effort; people in control, even ones doing poorly, are not helpless.²⁸

Effective reading teachers convey by word and deed that everyone can learn to read, if they pay attention and apply themselves. In their classrooms, effort pays off. Research establishes that these teachers assign reading material on which children experience a high rate of success.²⁹ However, effective teachers do not offer praise indiscriminately. Praise is given in recognition of noteworthy success at a task that is difficult for *this* student. The statement of praise specifies what the student did well, attributes the success to ability and effort, and implies that similar successes are attainable in the future.³⁰

Though sustained motivation is essential for learning to read, it should be cautioned that poor motivation is not the only problem, or even the most important problem, faced by poor readers. Experience indicates that even under the best of conditions some percentage of children will have difficulties in learning to read. A detailed discussion of what may be the root causes of these difficulties is beyond the scope of this report. It can be asserted with some confidence, nonetheless, that the approaches to reading outlined in this report can help to ameliorate the difficulties faced by very poor readers. (See Afterword.)

The fifth principle is that *reading is a continuously developing skill*. Reading, like playing a musical instrument, is not something that is mastered once and for all at a certain age. Rather, it is a skill that continues to

improve through practice. The process begins with a person's earliest exposure to text and a literate culture and continues throughout life.³¹

A good rule of thumb is that the most useful form of practice is doing the whole skill of reading — that is, reading meaningful text for the purpose of understanding the message it contains. This fact poses a problem for the beginner. How can a child practice reading without already being able to read?

One or more of several strategies are used to get a beginner started reading. A natural strategy is to use familiar stories that are readily understandable to the child, or maybe even partly known by heart. A common strategy is to severely restrict the vocabulary of the first selections a beginner will read. Another useful strategy is to teach the beginner something about the relationships between letters and sounds.

Like instruction in other complex skills, reading instruction most often takes the form of explanation, advice, coaching, and practice on what are judged to be the essential aspects or parts of the process. The test of the value of this instruction is whether the child's reading as a whole improves. Thus, in a well-designed reading program, mastering the parts does not become an end in itself, but a means to an end, and there is a proper balance between practice of the parts and practice of the whole.

In summary:

- **Skilled reading is constructive.** Becoming a skilled reader requires learning to reason about written material using knowledge from everyday life and from disciplined fields of study.
- **Skilled reading is fluent.** Becoming a skilled reader depends upon mastering basic processes to the point where they are automatic, so that attention is freed for the analysis of meaning.
- **Skilled reading is strategic.** Becoming a skilled reader requires learning to control one's reading in relation to one's purpose, the nature of the material, and whether one is comprehending.

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- **Skilled reading is motivated.** Becoming a skilled reader requires learning to sustain attention and learning that written material can be interesting and informative.
 - **Skilled reading is a lifelong pursuit.** Becoming a skilled reader is a matter of continuous practice, development, and refinement.